

IN THE CLAIMS:

The text of all pending claims, (including withdrawn claims) is set forth below. Cancelled and not entered claims are indicated with claim number and status only. The claims as listed below show added text with underlining and deleted text with ~~striketrough~~. The status of each claim is indicated with one of (original), (currently amended), (cancelled), (withdrawn), (new), (previously presented), or (not entered).

Please AMEND claims 1 and 8-11 and ADD claim 12 in accordance with the following:

1. (Currently Amended) An apparatus for a wireless base station for use in a wireless local area network (LAN) sharing one frequency channel, said apparatus being adapted to communicate with a plurality of wireless terminals in a plurality of sectors, said apparatus comprising:

a communication control unit, and
a plurality of transceivers associated with said sectors, respectively,
said transceivers having respective directive antennas associated with said respective sectors, wherein,

during a first period of time, said communication control unit causes all of said transceivers in all of said sectors to transmit and receive RF signals at said frequency channel to and from said plurality of wireless terminals, determines locations of said wireless terminals in the sectors, in accordance with identification codes of said wireless terminals and with identifications of said transceivers which receive said identification codes, and stores, in a location management table, information indicating which wireless terminals are located in each sector,

during a second period of time subsequent to said first period of time, said communication control unit enables one or more of said plurality of transceivers that are associated with respective one or more of said plurality of sectors that are not adjacent to each other, to transmit and receive RF signals at said frequency channel to and from wireless terminals, and said communication control unit disables remaining one or more transceivers other than said enabled one or more transceivers, from transmission to wireless terminals, and

during a third period of time subsequent to said second period of time, said communication control unit enables further one or more of said plurality of transceivers that are associated with respective further one or more of said plurality of sectors that are not adjacent to each other, to transmit and receive RF signals at said frequency channel to and from wireless

terminals, said further one or more transceivers being disabled in said second period of time from transmitting, and said communication control unit disables further remaining one or more transceivers other than said enabled further one or more transceivers, from transmission to wireless terminals, wherein,

time periods associated with said second period of time and time periods associated with said third period of time are sequentially and alternately executed,

a predetermined length of time before the change from a time period associated with said second period of time to said a time period associated with said third period of time, said transceiver which is enabled to transmit and receive RF signals starts detection of an transmitted-RF signal transmitted by a wireless terminal located in a corresponding sector, and broadcasts a packet indicative of disabling of transmission between said transceiver and wireless terminals in said corresponding sector during said third period of time and indicative of a length of said third period of time to wireless terminals in a said corresponding sector, when during which said transceiver does not receive an RF signal, wherein said transceiver broadcasts said packet if said transceiver detects no transmitted RF signal, and wherein, if said transceiver detects a transmitted RF signal, then said transceiver broadcasts said packet after completion of transmission of the transmitted RF signal,

a predetermined length of time before the change from a time period associated with said third period of time to a time period associated with said second period of time, said transceiver which is enabled to transmit and receive RF signals starts detection of an RF signal transmitted by a wireless terminal located in a corresponding sector, and broadcasts a packet indicative of disabling transmission between said transceiver and wireless terminals in said corresponding sector during said second period of time and indicative of a length of said second period of time to wireless terminals in said corresponding sector, during which said transceiver does not receive an RF signal, wherein said transceiver broadcasts said packet if said transceiver detects no transmitted RF signal, and wherein, if said transceiver detects a transmitted RF signal, then said transceiver broadcasts said packet after completion of transmission of the transmitted RF signal, and

the communication control unit determines whether time periods associated with said second period of time and time periods associated with said third period of time have been sequentially and alternately executed a predetermined number of times and executes a time period associated with said first period of time based on said determination.

2.-4. (Cancelled)

5. (Previously Presented) The apparatus according to claim 1, wherein, during said first period of time, said communication control unit causes all of said transceivers to transmit, in all of said sectors, a packet addressed to one of said wireless terminals, whose current location in the sectors is unknown.

6. (Previously Presented) The apparatus according to claim 1, wherein, during said second period of time, in one of said plurality of sectors, when one of said plurality of transceivers receives an identification code of one of said plurality of wireless terminals which has been located in another sector, from said one wireless terminal, said communication control unit stores said identification code of said one wireless terminal into said location management table in association with said one sector.

7. (Cancelled)

8. (Currently Amended) A wireless terminal for use in a wireless LAN sharing one frequency channel, said wireless terminal being adapted to communicate with a wireless base station in any one of a plurality of sectors, said wireless terminal comprising:

a control unit and a transceiver, wherein

said control unit causes said transceiver to transmit a response packet containing an identification code of said wireless terminal to said wireless base station in response to a polling packet received from said wireless base station during a first period of time,

said control unit causes said transceiver to transmit and receive RF signals at said frequency channel to and from said wireless base station during a second period of time, and

said control unit allows said transceiver to receive a broadcast packet indicative of disabling of transmission during a third period of time subsequent to said second period of time and indicative of a length of said third period of time, when said ~~receiver~~transceiver does not transmit an RF signal, and disables said transceiver from transmission during said third period of time,

time periods associated with said second period of time and time periods associated with said third period of time are sequentially and alternately executed, and

said control unit causes executes a time period associated with said first period of time based on whether time periods associated with said second period of time and time periods associated with said third period of time have been sequentially and alternately executed a

predetermined number of times.

9. (Currently Amended) A computer readable ~~storage embodying a method~~medium encoded with a computer program for an apparatus for a wireless base station for a wireless LAN sharing one frequency channel, said apparatus being adapted to communicate with a plurality of wireless terminals in a plurality of sectors, said ~~method~~program being operable to ~~effect the steps of:~~

during a first period of time, causing all of a plurality of transceivers in all of said sectors to transmit and receive RF signals at said frequency channel to and from said plurality of wireless terminals, determining locations of said wireless terminals in said sectors, in accordance with identification codes of said transceivers which receive said identification codes, and storing, in a location management table, information indicating which wireless terminals are located in each sector,

during a second period of time subsequent to the first period of time, enabling one or more of said plurality of transceivers that are associated with respective one or more of said plurality of sectors that are not adjacent to each other, to transmit and receive RF signals at said frequency channel to and from wireless terminals, and disabling remaining one or more transceivers other than said enabled one or more transceivers, from transmission to wireless terminals; and,

during a third period of time subsequent to said second period of time, enabling further one or more of said plurality of transceivers that are associated with respective further one or more of said plurality of sectors that are not adjacent to each other, to transmit and receive RF signals at said frequency channel to and from wireless terminals, said further one or more transceivers being disabled in said second period of time from transmission, and disabling further remaining one or more transceivers other than said enabled further one or more transceivers, from transmission to wireless terminals, wherein

time periods associated with said second period of time and time periods associated with said third period of time are sequentially and alternately executed,

a predetermined length of time before the change from a time period associated with said second period of time to said a time period associated with said third period of time, said transceiver which is enabled to transmit and receive RF signals starts detection of ~~an~~ transmitted RF signal transmitted by a wireless terminal in a corresponding sector, and broadcasts a packet indicative of disabling ~~of transmission~~ between said transceiver and wireless terminals in said corresponding sector during said third period of time and indicative of

a length of said third period of time to wireless terminals in ~~a~~said corresponding sector, ~~when~~during which said transceiver does not receive an RF signal, wherein said transceiver broadcasts said packet if said transceiver detects no transmitted RF signal, and wherein, if said transceiver detects a transmitted RF signal, then said transceiver broadcasts said packet after completion of transmission of the transmitted RF signal,

a predetermined length of time before the change from a time period associated with said third period of time to a time period associated with said second period of time, said transceiver which is enabled to transmit and receive RF signals starts detection of a transmitted RF signal in a corresponding sector, and broadcasts a packet indicative of disabling transmission between said transceiver and wireless terminals in said corresponding sector during said second period of time and indicative of a length of said second period of time to wireless terminals in said corresponding sector, during which said transceiver does not receive an RF signal, wherein said transceiver broadcasts said packet if said transceiver detects no transmitted RF signal, and wherein, if said transceiver detects a transmitted RF signal, then said transceiver broadcasts said packet after completion of transmission of the transmitted RF signal, and

the communication control unit determines whether time periods associated with said second period of time and time periods associated with said third period of time have been sequentially and alternately executed a predetermined number of times and executes a time period associated with said first period of time based on said determination.

10. (Currently Amended) A method for communication in an apparatus for a wireless base station for a wireless LAN sharing one frequency channel, said apparatus being adapted to communicate with a plurality of wireless terminals in a plurality of sectors, said method comprising ~~the steps of:~~

during a first period of time, causing all of a plurality of transceivers in all of said sectors to transmit and receive RF signals at said frequency channel to and from said plurality of wireless terminals, determining locations of said wireless terminals in said sectors, in accordance with identification codes of said transceivers which receive said identification codes, and storing, in a location management table, information indicating which wireless terminals are located in each sector,

during a second period of time subsequent to the first period of time, enabling one or more of said plurality of transceivers that are associated with respective one or more of said plurality of sectors that are not adjacent to each other, to transmit and receive RF signals at said

frequency channel to and from wireless terminals, and disabling remaining one or more transceivers other than said enabled one or more transceivers, from transmission to wireless terminals; and,

during a third period of time subsequent to said second period of time, enabling further one or more of said plurality of transceivers that are associated with respective further one or more of said plurality of sectors that are not adjacent to each other, to transmit and receive RF signals at said frequency channel to and from wireless terminals, said further one or more transceivers being disabled in said second period of time from transmission, and disabling further remaining one or more transceivers other than said enabled further one or more transceivers, from transmission to wireless terminals, wherein

time periods associated with said second period of time and time periods associated with said third period of time are sequentially and alternately executed,

a predetermined length of time before the change from a time period associated with said second period of time to said a time period associated with said third period of time, said transceiver which is enabled to transmit and receive RF signals starts detection of an transmitted RF signal transmitted by a wireless terminal in a corresponding sector, and broadcasts a packet indicative of disabling of transmission between said transceiver and wireless terminals in said corresponding sector during said third period of time and indicative of a length of said third period of time to wireless terminals in a said corresponding sector, when during which said transceiver does not receive an RF signal, wherein said transceiver broadcasts said packet if said transceiver detects no transmitted RF signal, and wherein, if said transceiver detects a transmitted RF signal, then said transceiver broadcasts said packet after completion of transmission of the transmitted RF signal,

a predetermined length of time before the change from a time period associated with said third period of time to a time period associated with said second period of time, said transceiver which is enabled to transmit and receive RF signals starts detection of a transmitted RF signal in a corresponding sector, and broadcasts a packet indicative of disabling transmission between said transceiver and wireless terminals in said corresponding sector during said second period of time and indicative of a length of said second period of time to wireless terminals in said corresponding sector, during which said transceiver does not receive an RF signal, wherein said transceiver broadcasts said packet if said transceiver detects no transmitted RF signal, and wherein, if said transceiver detects a transmitted RF signal, then said transceiver broadcasts said packet after completion of transmission of the transmitted RF signal, and

the communication control unit determines whether time periods associated with said second period of time and time periods associated with said third period of time have been sequentially and alternately executed a predetermined number of times and executes a time period associated with said first period of time based on said determination.

11. (Currently Amended) A method for communication in a wireless terminal for a wireless LAN sharing one frequency channel, having a transceiver, said wireless terminal being adapted to communicate with a wireless base station in any one of a plurality of sectors, said method comprising:

causing said transceiver to transmit a response packet containing an identification code of said wireless terminal to said wireless base station in response to a polling packet received from said wireless base station during a first period of time,

causing said transceiver to transmit and receive RF signals at said frequency channel to and from said wireless base station during a ~~first~~second period of time, causing said transceiver to receive a broadcast packet indicative of disabling of transmission during a third period of time subsequent to said second period of time and indicative of a length of said third period of time, when said transceiver does not transmit an RF signal, ~~and~~

disabling said transceiver from transmission during said third period of time,

determining whether time periods associated with said second period of time and time periods associated with said third period of time have been sequentially and alternately executed a predetermined number of times, and

executing a time period associated with said first period of time based on whether time periods associated with said second period of time and time periods associated with said third period of time have been sequentially and alternately executed said predetermined number of times.

12. (New) An apparatus for a wireless base station for use in a wireless local area network (LAN), said apparatus being adapted to communicate with a plurality of wireless terminals in a plurality of sectors, said apparatus comprising:

a plurality of transceivers associated with said sectors, respectively, wherein

during a first period of time, all of said transceivers in all of said sectors to transmit and receive RF signals to and from said plurality of wireless terminals,

during a second period of time subsequent to said first period of time, one or more of said plurality of transceivers that are associated with respective one or more of said plurality of

sectors that are not adjacent to each other, are enabled to transmit and receive RF signals at said frequency channel to and from wireless terminals, and remaining one or more transceivers other than said enabled one or more transceivers, are disabled from transmission to wireless terminals, and

during a third period of time subsequent to said second period of time, further one or more of said plurality of transceivers that are associated with respective further one or more of said plurality of sectors that are not adjacent to each other, are enabled to transmit and receive RF signals at said frequency channel to and from wireless terminals, said further one or more transceivers being disabled in said second period of time from transmitting, and further remaining one or more transceivers other than said enabled further one or more transceivers, are disabled from transmission to wireless terminals, wherein

time periods associated with said second period of time and time periods associated with said third period of time are sequentially and alternately executed, and

time periods associated with said second period of time and time periods associated with said third period of time are sequentially and alternately executed a predetermined number of times and a time period associated with said first period of time is subsequently executed.